

**REMARKS**

Claims 1 and 3-10 are pending in the instant application. Claims 1 and 3-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 6,265,551 to Duke-Cohan et al. in view of WO 95/27438 of Balamore. Claims 1 and 10 have been amended. Applicants respectfully submit that none of the amendments constitute new matter in contravention of 35 U.S.C. §132. Reconsideration is respectfully requested.

Claims 1 and 3-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 6,265,551 to Duke-Cohan et al. in view of WO 95/27438 of Balamore. This rejection is respectfully traversed.

Claim 1 of the present invention is directed to an *in vitro* method which is a test involving a reaction of one or more biological molecules. The method of claim 1 includes the steps of

labeling one of the biological molecules with hyperpolarized <sup>129</sup>Xe, wherein an assay reagent includes the biological molecule;

conducting the reaction; and

observing the magnetic resonance (NMR) spectrum and/or NMR image of the hyperpolarized <sup>129</sup>Xe during the course of said reaction in order to detect any conformational change in the labelled biological molecule.

Claim 10 is directed to an *in vitro* assay method for following the progress of a reaction of one or more biological molecules. This method includes the steps of:

labeling an assay reagent with hyperpolarized  $^{129}\text{Xe}$ , wherein the assay reagent comprises one of the one or more biological molecules;

conducting the reaction; and

observing a change with time of a magnetic response resonance (NMR) spectrum and/or NMR image of the hyperpolarized  $^{129}\text{Xe}$  during the course of the reaction in order to detect a conformational change in the labeled assay reagent.

Duke-Cohan *et al*, on the other hand, discloses a conventional binding assay in which a labelled antibody is used to detect a protein.

Balamore is directed to imaging a chemical or biological system by nuclear magnetic resonance using the spatial distribution of a noble gas.

Both independent claims of the present invention use the NMR spectrum/image to detect a conformational change in the labelled biological molecule when that molecule interacts with another molecule as part of an assay (page 2 lines 8-15 of PCT application). The labelled biological molecule of the assay of Duke-Cohan, conversely, binds to a particular receptor (DPPIV), enabling the identification, quantification and/or purification of cells bearing this receptor (column 3 lines 22-41). Duke-Cohan does not disclose detection of any conformational changes in the labeled biological molecule. Therefore, substituting the labels disclosed in Duke-Cohan with a noble gas of Balamore, e.g.  $^{129}\text{Xe}$ , results in an assay method wherein the signal emitted by  $^{129}\text{Xe}$  is used merely as evidence of the presence of a particular receptor and doesn't lead to the present invention.

Moreover, in the method of the present invention, the labelled biological molecule is also the sample which is observed in the assay. In the assay of Duke-Cohan, the labelled biological molecule is contacted with the sample (column 3 lines 45-56), i.e. the labelled biological molecule is a separate entity to the sample.

With particular respect to claim 10, Applicants respectfully submit that Duke-Cohan merely looks for the presence of something, and does not follow the progress of a reaction by observing conformational changes in the labeled biological molecule.

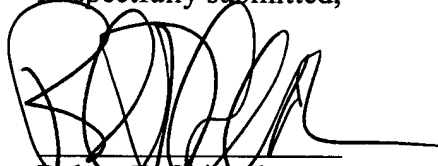
Therefore, as both Duke-Cohan and Balamore, taken together or separately, fail to disclose, teach, or suggest the present invention is patenably distinct therover. Reconsideration and withdrawal of the rejection are respectfully requested.

In view of the amendments and remarks hereinabove, Applicants respectfully submit that the instant application, including claims 1 and 3-10, is allowable. Favorable action thereon is respectfully requested.

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Any questions with respect to the foregoing may be directed to Applicants'  
undersigned counsel at the telephone number below.

Respectfully submitted,



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